NIGHTMARES

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Nightmares are unpleasant or frightening dreams that occur sporadically in virtually all children. The peak incidence occurs between 3 and 6 years of age. Developmental, genetic, psychological, and organic factors have been identified as causes of nightmares. Nightmares usually occur in the middle of the night or in the early morning when rapid eye movement sleep is more common. The content of the nightmare almost always involves a specific danger to the child. On awakening, the child is fully alert, may be easily calmed or comforted, and can usually recall the details of the nightmare. Sporadic nightmares are common in children and require reassurance only. If nightmares are frequent and persistent, a psychological evaluation of the child and family is indicated. (*J Natl Med Assoc.* 1993;85:233-235.)

Key words • nightmares • REM sleep • NREM sleep

Nightmares are unpleasant or frightening dreams that may cause a sleeping child to wake or cry during sleep. Nightmares are frightening, primitive, and unlike waking experiences. They have fascinated mankind for centuries[1] and have often appeared in literature. A failure to understand that nightmares are not real may result in behavioral problems. Terr described a 13-year-old girl who dreamed she had intercourse with her father.[2] For months afterward, the girl was so horrified that she could not communicate with her father.

Although nightmares are common in children, they have received little attention in the literature. This article reviews the etiology, presentation, diagnosis, and management of nightmares.

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PREVALENCE

Nightmares occur sporadically in virtually all children[3] and are most common between the ages of 3 and 6 years of age and are less frequent thereafter.[3,4] Both sexes are equally affected.[4,5] Reported prevalence rates vary, with differences attributed to different diagnostic criteria and study populations. Woodward and Magnus reported that 141 (26%) of 543 first-grade students had nightmares.[6] Peterson interviewed two groups of sixth graders who were 11 to 13 years of age.[1] In the first group of 168 students, 97 (58%) had never had a nightmare, 22 (13%) remembered past nightmares that had since stopped, and 49 (29%) were still experiencing nightmares. In the second group of 128 students, 97 (76%) did not recollect having nightmares, 25 (19%) remembered past nightmares that had stopped, and only 6 (5%) reported still experiencing nightmares. The frequency of the nightmares was not specified. Erman reported that 240 (4.2%) of 5713 residents of the Republic of San Marino had nightmares and that 80% of these individuals had nightmares at least once a month.[7] In a Los Angeles survey, approximately 5% of the general population had a current problem with nightmares and another 5% had a past history of problems with nightmares.[7]

SLEEP-LABORATORY STUDIES

Polygraphic studies have increased our knowledge of sleep and its related physiologic phenomena. Active sleep is characterized by rapid eye movements (REM), facial and body movements, tachypnea, tachycardia, irregular heart and respiratory rhythms, inhibition of deep tendon and other reflexes, and a low-voltage fast-frequency electroencephalographic pattern.[8-10] Cerebral blood flow and the temperature of the central nervous system increase during active sleep. Rapid awakening after a period of active sleep is associated with good recall of a dream. Quiet sleep is characterized by non-rapid eye movement (NREM) and is accompanied by the presence of normal muscle tone, an absence of facial or body movements except an occasional startle, and a slow and regular heart and respiratory rate. Non-rapid eye move-

ment sleep is comprised of four stages, during which there is a gradual and progressive increase in the depth of sleep.[9,10]

After the onset of sleep, there is a gradual progression from REM to NREM sleep. Non-rapid eye movement sleep may last for 70 to 100 minutes, after which there is a transition from stage four back through stages three and two to stage one, followed by a new cycle starting with REM sleep. This cycle repeats itself three to five times each night. Each episode of REM sleep lasts a progressively longer period of time. During the first part of the night, more time is spent in stage four sleep, whereas during the last third of the night, REM sleep predominates.[10,11] The final episode of REM sleep lasts approximately 20 to 30 minutes and is followed by awakening. Sleep-laboratory studies have shown that nightmares occur exclusively during REM sleep.[8-11]

ETIOLOGY

Developmental, genetic, psychological, and organic factors have been identified as causes of nightmares. Because most children outgrow nightmares, developmental (maturational) factors may be involved. Nightmares are especially frequent during the preschool and early school years, perhaps because a child has an active fantasy life during this stage of development.[12]

Several authors have noted a familial predisposition to nightmares.[1,7,13] Cirignotta et al studied 241 individuals with frequent nightmares and found that 17 (7.1%) had a family history of similar disturbance compared with 4.1% of controls ($P<.05$).[13]

Psychological stress may predispose a child to nightmares. Most nightmares are caused by and reflect emotional conflicts that take place during the day.[4] Psychological stress may develop subsequent to school examinations, death of a close relative, emotional deprivation or neglect, insecurity, separation from a parent, parental divorce, overzealous attempts at early discipline such as with toilet training, constant nagging, or any other fearful or anxious experience during the day.[1,7] Traumatic events such as a tragic accident, kidnapping, severe burn, surgical procedure, hospitalization, or rape can lead to nightmares.[1,7,14,15]

Terr reported on 26 schoolchildren who were kidnapped from their school bus and buried alive for 16 hours in a truck-trailer.[14,15] After 4 years of follow-up, 25 children continued to experience nightmares. The frequency of the nightmares decreased with time but the intensity remained high.[14,15]

If nightmares occur frequently in late adolescence or adulthood, a psychopathologic cause may be present. Data from the Minnesota Multiphasic Personality Inventory tests showed that adults who suffer from chronic nightmares are more likely to be distrustful, alienated, estranged, oversensitive, overreacting, and egocentric.[16] Severe nightmares may serve as an emotional release for individuals who have difficulty in dealing with interpersonal issues.[12]

Nightmares have been reported in association with febrile illnesses.[12] It is unclear whether the fever or the stress of the underlying illness precipitates the nightmare.[1] Nightmares are more common in children with mental retardation and depression, as well as in children with diseases of the central nervous system.[1,17]

Nightmares may result from drug treatment or follow the withdrawal of a drug. The administration of reserpine, levodopa, beta blockers, tricyclic antidepressants, cholinesterase inhibitors, monoamine oxidase inhibitors, digoxin, and nitrazepam may increase REM sleep and lead to nightmares in individuals who are not otherwise prone to this problem.[7,18-20] Medications that have REM-suppressant properties, such as barbiturates, benzodiazepines, and amphetamines, may lead to nightmares when they are discontinued due to a rebound phenomenon.[7,12,18] In adults, alcohol withdrawal may lead to nightmares.[7,18]

CLINICAL MANIFESTATIONS

Nightmares usually occur in the middle of the night or in the early morning hours when REM sleep is more common.[7] The nightmare almost always involves a specific danger to the child. The child may be chased, teased, scolded, beaten, strangled, robbed, or murdered.[21] The nightmare may involve monsters, ghosts, devils, fierce animals, robbers, or other bad individuals. Vocalization, movement, and autonomic symptoms (eg, tachypnea, perspiration, and dilated pupils) are minimal.[12] On awakening, the child may have a feeling of suffocation and helplessness or may experience significant anxiety, accompanied by tachycardia. The child, on awakening, is fully alert, may be easily calmed and comforted, and can usually recall details of the nightmare.

Insomnia is increased in children with nightmares.[22] The child may have insomnia because of the fear of experiencing the nightmare or due to difficulty in falling asleep after waking from the nightmare. The onset of both sleep disorders may be related to stressful events or emotional difficulties.[22]

DIFFERENTIAL DIAGNOSIS

Nightmares are often confused with night terrors, which are characterized by episodes of extreme terror and

panic that develop suddenly during sleep. They are associated with intense vocalization and movement, and high levels of autonomic discharge.[4,10] Night terrors are considered a disorder of impaired arousal. Sleep-laboratory studies have shown that they occur exclusively during NREM sleep, especially in stages three and four. In contrast to nightmares, children with night terrors are difficult to arouse and console.[10] Attempts to console the child may add to the state of panic.[10] If the child is awakened at the end of an episode, immediate dream recall is fragmentary or absent. The child does not recollect the episode the following morning. Night terrors are associated with an increased incidence of other disorders of arousal such as sleep-walking (somnabulism) and sleep-talking (somniloquism).[23]

MANAGEMENT

Almost all children experience nightmares; most outgrow the problem.[12] Sporadic nightmares require reassurance only. Minimizing the child's exposure to potentially stressful experiences and providing a secure and happy home environment are important. A child who is happy is less likely to have nightmares. The relief of stressful factors that may cause nightmares may require psychological counseling. Bedtime should be enjoyable and relaxed. Reading or talking with a child permits a review of some of the fears or angers of the day. Parents should encourage their children to remain in their own beds.

If nightmares occur at least 2 nights per week and persist for more than 6 months, or if they are frequent in children over 6 years of age, a comprehensive psychological evaluation of the child and family is indicated. Psychological counseling may be indicated in selected families.[7,24] If nightmares are caused by medication, modification of the dosage may be necessary.[7,12]

SUMMARY

Nightmares occur in virtually all children. Most nightmares reflect emotional issues that occurred during the day. Sporadic nightmares require reassurance only, while frequent nightmares indicate a comprehensive psychological evaluation of the child and family.

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